

FIG. 1

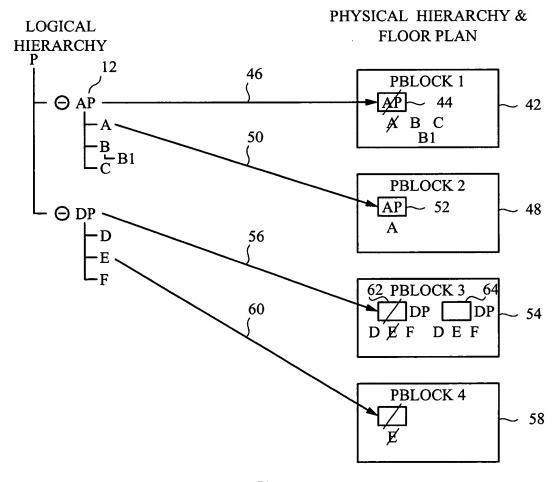


FIG. 5

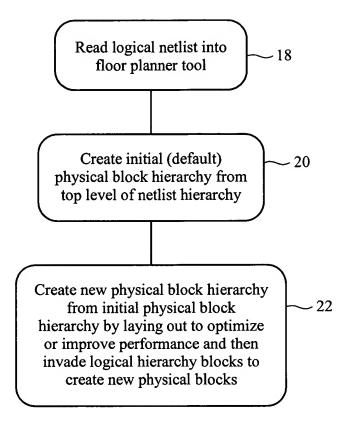


FIG. 2

PROCESS TO CREATE A NEW FLOORPLAN USING IMPROVED FLOOR PLANNER

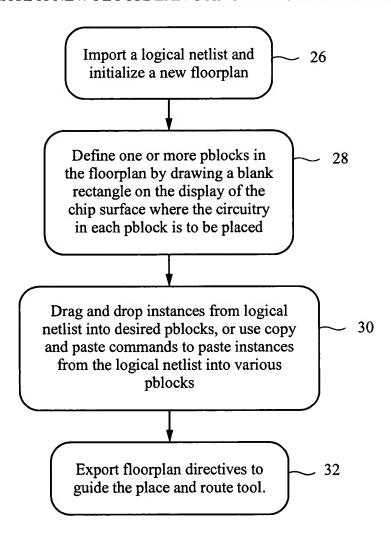


FIG. 3

PTREE UPDATE PROCESS Mark entry for logical - 34 instToAppend in m_instanceAssignments array to point to the pblock to which the instance is being assigned Mark all child instances of - 36 instToAppend to point to the same pblock. Recurse down through the children's children until all primitives under instToAppend in the logical netlist are marked as belonging to the pblock of the parent (instToAppend) Recurse up the parent instances of - 38 instToAppend until a "rooted parent" is found" and set to zero in m_instanceAssignments array. Find the "rootedPBlock" to which this rooted parent was assigned. Unwind the recursion from the rooted parent and mark each ancestor on the line of descendants in the physical hierarchy between the rooted parent and the instToAppend as zero in said array. Set flags for all siblings of said ancestors as rooted and mark in array as belonging to the

FIG. 4A

rootedPBlock if not already so marked

- 40

Check to see if all siblings of instToAppend are also marked as being contained by the same pblock. If so, do "collapse" operation whereby parent is resurrected and marked as assigned (and rooted) within the pblock. Then recursion up to the tree is performed until this is no longer possible so as to do defragmentation or optimization to rebuild the logical hierarchy whenever it makes sense to do so

FIG. 4B

PNETWORK UPDATE PROCESS

For each instance which has been removed from a pblock, and each pin of said instance, disconnect the net from the pin and clean up the physical nets/pins as appropriate in the data structure

- 66

- 68

For each instance that has been added to a pblock, and each pin of the added instance, connect pin and create physical nets/pins as is appropriate

FIG. 6

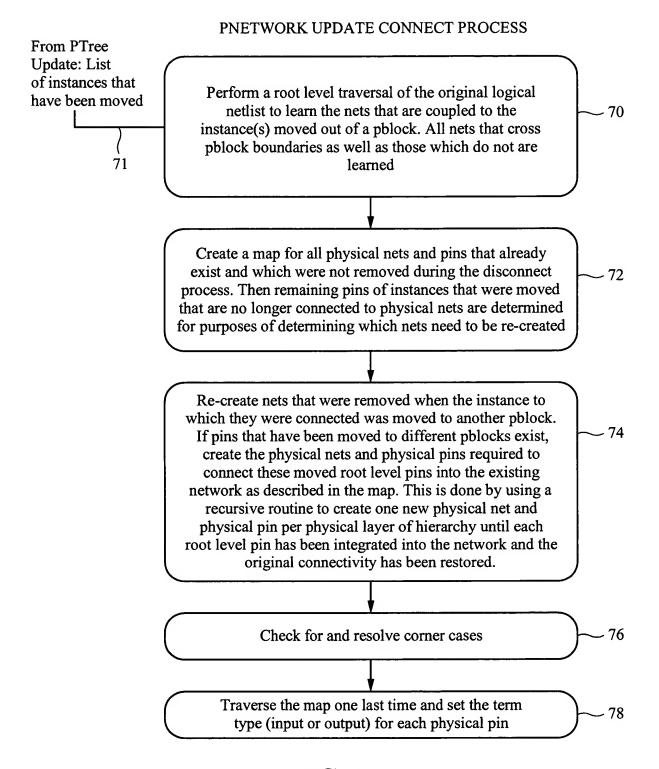


FIG. 7

THE DISCONNECT PROCESS OF PNETWORK UPDATE

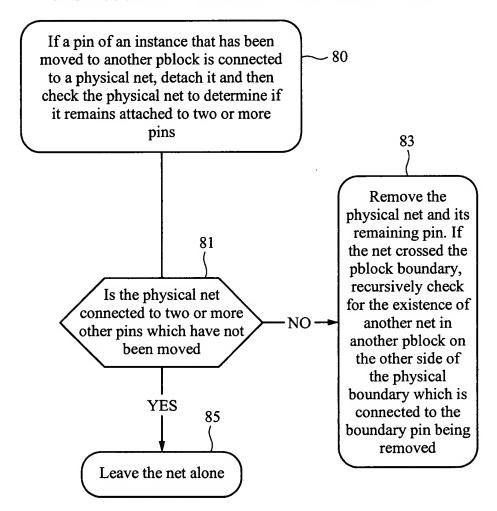


FIG. 8

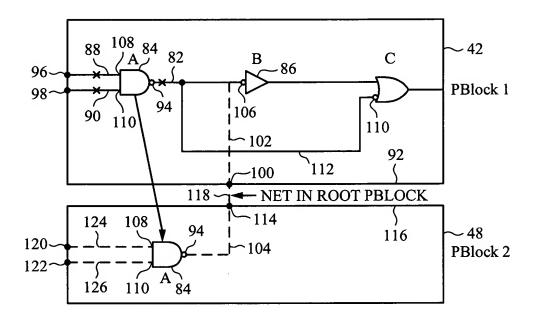


FIG. 9

ALTERNATIVE EMBODIEMENT OF THE DISCONNECT PROCESS OF PNETWORK UPDATE

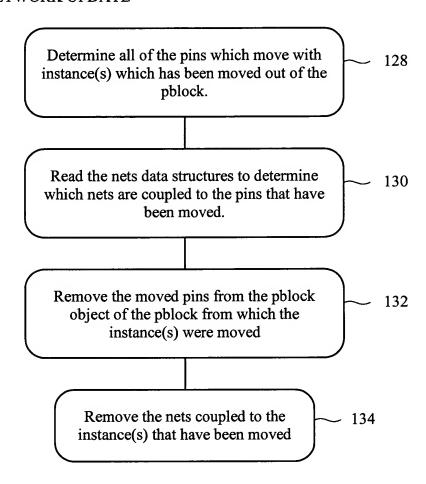


FIG. 10

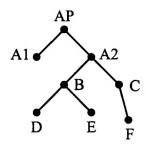
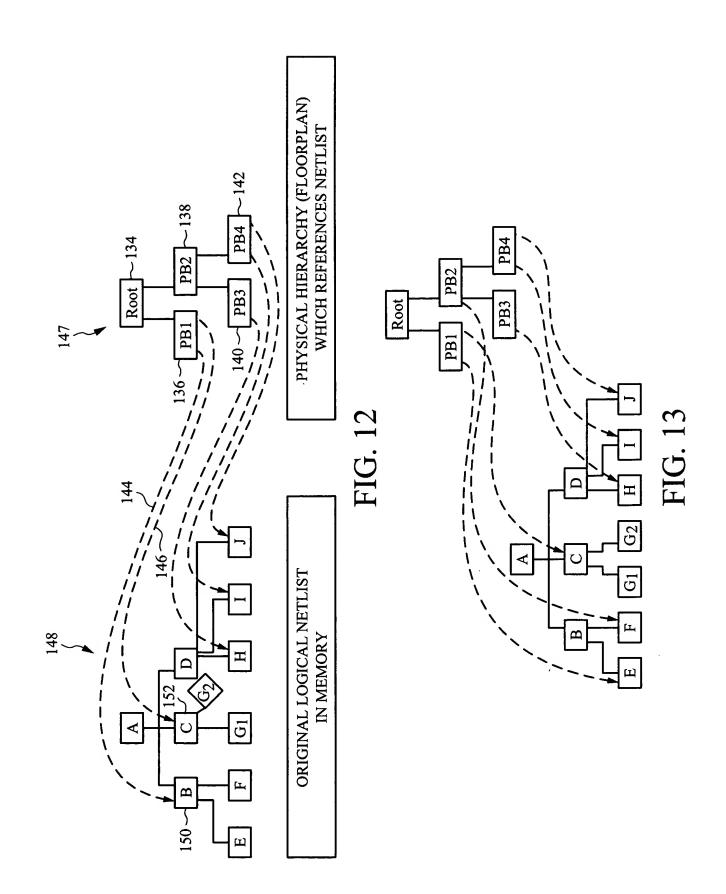


FIG. 11



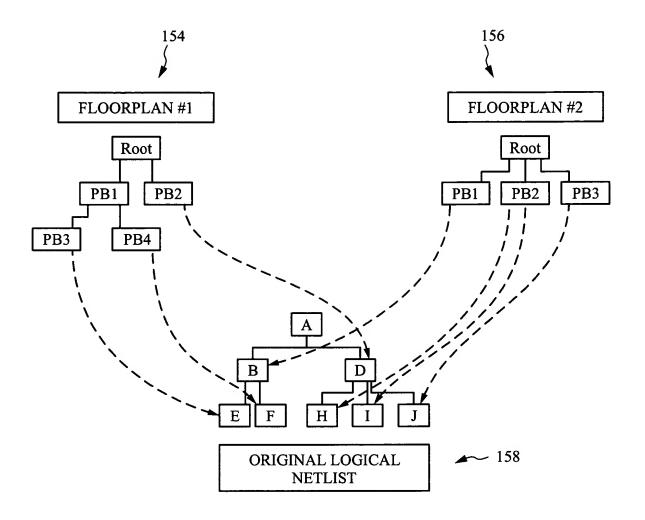


FIG. 14

PROCESS TO DISCONNECT AND RECONNECT AN ENTIRE PBLOCK WHEN IT IS MOVED OUT OF ONE PARENT PBLOCK AND INTO ANOTHER

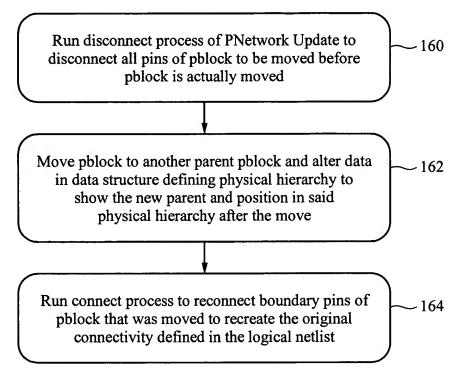


FIG. 15

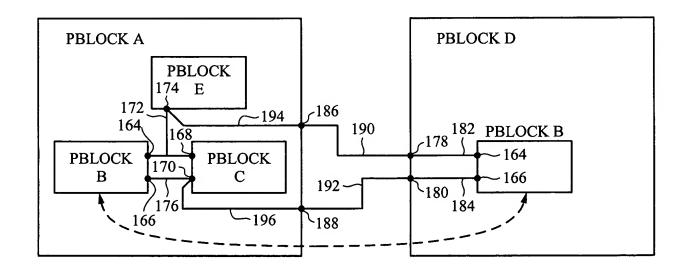


FIG. 16